

# Marketing Iowa Timber

Landowners are strongly encouraged to involve a professional forester when considering a timber harvest. A professional forestry consultant can assist a woodland owner in receiving fair value for the timber and can provide useful management advice to achieve the landowner's short- and long-range objectives. Technical counsel and recommendations related to proper woodland management are available without charge to landowners from the District Foresters of the Iowa Department of Natural Resources. Several private professional forestry consultants operate in the state and offer more expanded services on a fee basis.

Once the decision is made that a timber harvest is appropriate and consistent with good forest management of the woodland, the following steps are recommended:

- determine what you have to sell;
- decide how to sell the timber;
- notify potential buyers and solicit sealed bids;
- enter into a contract with the selected buyer; and
- periodically inspect the harvesting operation.

## Determining What to Sell

In order to advertise a timber sale to potential buyers and to give some indication of its potential value, a seller needs to determine what to sell. This involves deciding what trees or small areas are to be cut and then determining the number of trees and total volume of wood of each species to be sold.

The value of standing trees in a woodland is determined by the price a buyer will pay. Three primary factors or characteristics determine the value of the trees: species, size, and quality. The most valuable hardwoods in Iowa today include black walnut, red oak, and white oak. Ash, basswood, cottonwood, elm, and maple are typically of less value than walnut or oak. Larger diameter trees with greater merchantable height will bring more money than smaller trees of the same species and of similar quality. Buyers prefer straight trees with few defects. Figure 1 shows some common defects that may dramatically reduce timber value.

The highest quality trees of walnut or oak are usually marketed for veneer. A veneer-quality tree should be at least 18 inches in d.b.h. (diameter outside bark at 4½ feet above the ground), and have an eight-foot minimum first log, and be essentially free of all defects on the log surface. The minimum qualifications vary somewhat depending on the market and the timber buyer. Avoid cutting veneer-quality walnut and oak too soon. Depending on growth rate, veneer-quality trees are usually commercially mature at a d.b.h. of 20 to 24 inches. For example, a recent economic analysis estimated that a vigorously growing walnut tree with a veneer-quality first log 8 feet long increases in value at a rate of 60 percent annually between

the 15- and 17-inch diameter class; and between the 17- and 21-inch diameter class, the value is still increasing 20 percent per year. An 8-foot log from a tree with a d.b.h of 22 inches has twice the volume of a 16-inch tree, and the price per board foot may be two or four times higher.

The next level of tree quality involves lumber-quality logs. These trees may be processed into grade lumber by a sawmill and are typically lower in quality than veneer trees. Sawlogs from even lower quality trees or from less desired species may only be saleable as pallet lumber logs or tie logs. The price paid for these trees will

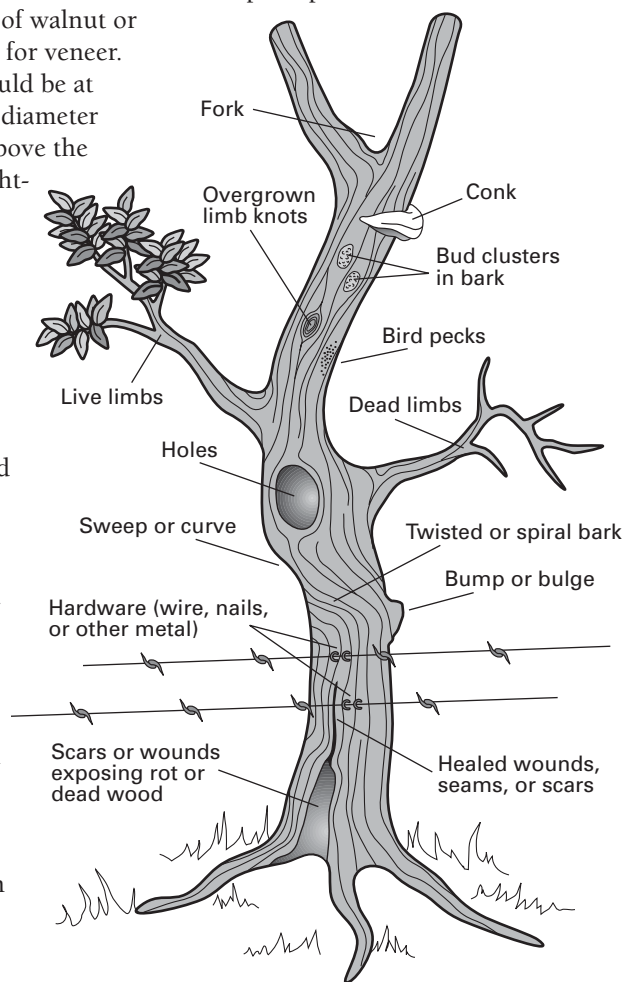


Figure 1. Tree defects.

generally be lower than that paid for higher quality lumber logs. Commercial maturity of lumber trees may be reached at a somewhat smaller size; for example, lumber-quality walnut trees may be considered commercially mature at 19 inches in diameter.

Although most tree species in Iowa are suitable for pulpwood, there is only one active mill in the state. Only woodland owners in southeast Iowa within 100 miles or less from the mill, located at Fort Madison, have a market for pulpwood-quality logs.

Another market for small, low quality trees and branchwood is firewood. Although the price paid for standing trees marketed as firewood may be low, processing into cut-to-length, split, dry firewood can yield a return higher in some locations than low quality sawlogs. Obviously, cutting firewood to length, splitting, and drying requires substantial effort and time on the part of the landowner, and a market must be available to sell this material at a favorable price. Firewood may be delivered or picked up at the woodland.

Selecting trees for harvest should be done with the consultation of a competent professional forester to ensure the harvest will satisfy the landowner's objectives and maintain the woodland in a vigorous, healthy, productive condition. In Iowa this assistance is available to most landowners at no charge from district foresters of the Iowa Department of Natural Resources or for a fee from a consulting forester. Your county extension office can provide the name and address of the district forester located closest to you.

After selecting the trees to be harvested, mark the trees for easy identification. Individual trees to be cut throughout the woodland can be marked with tree marking paint at the stump and at chest height. If small areas are to be harvested, the individual trees may be marked or the trees around the boundary of the area may be marked.

A seller should estimate the number of trees to be cut in each species and their volume, or seek the assistance of a district or consulting forester.

The volume of trees to be marketed as veneer logs or sawlogs is commonly measured in board-feet. One board-foot is equal to the volume of wood contained in a 12-inch by 12-inch piece of wood, 1 inch thick. Board-foot volume of a tree can be estimated from a tree volume table (see table 1) when d.b.h. and merchantable height (height to main fork, serious defects such as hollow, or to a minimum diameter of approximately 10 inches) are known. Convert circumference or girth of a tree to diameter by dividing the circumference in inches by 3.14. Using table 1, a tree 20 inches d.b.h. with 24 feet of merchantable height contains approximately 212 board-feet of wood. The board-foot volume of logs may be similarly estimated using a log volume table and knowing the diameter inside the bark at the small end of the log and the log's length (see table 2).

Many different volume tables have been developed to estimate tree and log volumes. The Scribner volume table has been designated as Iowa's "official" volume table in the Code of Iowa. Some Iowa buyers prefer to measure volume of black walnut trees using the Doyle rule, but table 1 or the Scribner rule may be used by the seller for all species. The particular volume table used is probably not of critical importance except in the grade-and-yield sales method, discussed in the next section.

In Iowa, pulpwood is sold on a weight basis. The weight of a tree can be estimated using appropriate tables when the d.b.h. and number of 8-foot lengths in a tree, to a top diameter of three inches, are known.

With the increasing interest in the use of wood as a fuel, firewood is being sold in many parts of Iowa. The traditional unit of measurement for fuel-

wood is the standard cord. A standard cord is a stack of wood that contains 128 cubic feet of wood plus air spaces. A solid wood content of 80 cubic feet is assumed for hardwood firewood 3 to 8 inches in diameter. A typical cord may be logs 4 feet long in a pile 4 feet high and 8 feet long.

## Timber Selling Methods

Most Iowa woodland owners sell their trees in one of three ways: lump-sum stumpage, percentage, or grade-and-yield. Also, a few woodland owners cut their own trees and deliver the logs to a roadside or directly to a buyer.

The **lump-sum stumpage** method involves selling a marked or designated number of standing trees for one total price using competitive bidding. This method is recommended where several active buyers are in the area and where high quality trees are being marketed. The loggers bid on trees as they stand. The seller can compare bids and will know the exact price of the trees before the trees are cut. The lump-sum stumpage method will almost always yield the greatest return to the landowner when high quality veneer or lumber trees are being sold, and it minimizes risk for the seller. For this reason, primary emphasis in this pamphlet is on selling timber using the lump-sum stumpage method.

The **percentage sale** method involves an agreement between the landowner and a logger to share the proceeds of a timber sale on an agreed basis. The logger cuts the trees and sells the logs; the total money received for the log sale is divided between the landowner and the logger. For example, the landowner may receive 60 percent and the logger 40 percent, or the two parties may agree to share the proceeds equally.

The **grade-and-yield** method involves an arrangement in which the buyer agrees to pay the landowner a specified amount per unit volume or board-foot. The logger estimates the volume of the logs by scaling and grades the logs

**Table 1. Tree volume based on Scribner rule.**

Diameter at 4½ ft. above ground (in.)	Merchantable height (ft.)					
	8	16	24	32	40	48
	Contents in board feet					
12	28	48	66	78	89	100
14	40	70	96	116	141	160
16	54	93	129	158	191	224
18	72	122	168	207	248	292
20	90	156	212	262	317	366
22	111	194	262	328	392	450
24	137	236	319	400	470	550
26	165	281	381	480	565	650
28	195	331	450	560	670	760
30	227	383	520	650	770	890
32	260	440	600	740	890	1020
34	294	500	680	840	1010	1160
36	330	565	770	960	1140	1310

**Table 2. Log volume based on Scribner rule.**

Diameter inside bark at small end of log (in.)	Length of log (ft.)				
	8	10	12	14	16
	Contents in board feet				
12	40	50	60	70	80
14	60	70	80	90	100
16	80	100	120	140	160
18	110	130	160	190	210
20	140	170	210	240	280
22	170	210	250	290	330
24	210	250	300	350	400
26	250	310	370	440	500
28	290	360	440	510	580
30	330	410	490	570	660

for quality. The landowner is paid based on the expected yield from the logs. In this type of sale, the volume table used is important to the seller.

A major disadvantage of both the percentage and grade-and-yield methods is that the value of the timber is not determined until after the trees are cut. If the landowner does not like the price, there is little recourse because the trees are already cut down. Standing trees are not perishable; in a lump-sum stumpage sale the seller can decide to reject any or all bids and sell the timber at a later time.

Only landowners with logging experience should consider cutting their own trees and delivering the logs to a buyer. Although cutting and hauling logs may increase the total revenue, the risks involved are substantial. Logging is hard, dangerous work. In addition to the personal risks, engaging in logging may alter insurance coverage. Logging requires special equipment; attempting to log with agricultural equipment can result in damage to the machinery. Logging an area often requires more time than is originally estimated and may interfere with other responsibilities. Also, improper cutting and transporting of

logs can lower the value of the trees. For this last reason, the harvesting of high value veneer trees should be left to the buyer.

The landowner is advised to work with a consulting forester or a district forester of the Iowa Department of Natural Resources in the actual marketing of timber. A consulting forester can provide valuable advice and services for a set fee or for a share of the proceeds from the timber sale. District foresters do not charge a fee for their professional services but typically offer timber marking services as a part of a detailed management plan.

## Notifying Buyers and Soliciting Bids

A timber sale should be advertised to as many potential buyers as possible. There is no exact value or “going price” for a tree or stand of timber as for many commodities. The selling price is whatever the buyer and seller agree to and is influenced by many factors including tree species; number, size, and quality of trees or logs; distance of the trees or logs from the market; accessibility of the logging area and difficulty of the logging operation; current market conditions; the buyer’s financial condition; and how urgently the buyer needs the trees or logs.

Because of these factors there is often a range of bids among buyers for the same trees. For example, in a recent sale of mixed hardwoods in eastern Iowa, the bids ranged from \$2,600 to \$9,700. Had the woodland owner been in contact with only the low bidder, the owner would have lost \$7,100. For this reason, try to obtain at least three bids in all timber sales that involve more than a few trees.

The most effective way of notifying potential buyers of a timber sale is to mail them a notice of sale. *Notice of Timber for Sale*, Pm-413a, available at county extension offices, is an example of a notice. Such a notice should include:

- name and address of seller;
- location of the sale—both the legal description and directions for locating the area;
- description of trees to be sold;
- restrictions on removal of topwood;
- times when potential buyers can inspect the trees;

- date, time, and place written sealed bids will be opened; and
- any major limitations or conditions on the sale, such as time limit for cutting or restrictions on access to the area.

Any person or firm buying timber in Iowa must be bonded. A list of bonded timber buyers may be obtained from District Foresters of the Iowa Department of Natural Resources. Contact your District Forester for help in identifying timber buyers in your area for the type of timber you are selling.

Additional advertising for a timber sale may be done by placing an advertisement in a newspaper directing interested buyers to contact you for a complete description of the sale.

Remember that some timber sales cannot be successfully marketed using a competitive sealed bid process because of minimal quantity, low quality, or limited markets.

## Enter into a Contract

To reduce the possibility of misunderstandings and disagreements, a written contract between a timber seller and buyer is advisable. Pm-413b, *Timber Sale Contract*, available at county extension offices, is an example of a contract. A timber sale contract should include:

- names of parties entering into the contract;
- location of timber and how it is marked;
- value of the sale and a statement as to when and how payment is to be made;

- any limitations imposed on the buyer, such as deadline to complete cutting, access to property, restrictions on logging during wet periods, or restrictions on removing topwood;
- any statements of liability of the buyer for property damage and unnecessary damage to unmarked trees; and
- date of termination of contract.

## Periodically Inspect the Harvesting Operations

Once the timber harvest begins, the seller should frequently visit the area to see that the harvest is proceeding according to the contract and to discuss any questions with the buyer that might arise. This also will give the seller an opportunity to become more familiar with timber harvesting operations, which may be beneficial in future timber sales.

## Tax Treatment of Timber Sales

There have been recent changes in how revenues from timber sales may be treated for federal income tax purposes. For more information on changes affecting timber sales revenue and other woodland management activities, send for Forestry Extension Note F-356, *How Current Tax Laws Affect Woodland Owners*, available from Forestry Extension, 253 Bessey Hall, Iowa State University, Ames, Iowa 50011.

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